

## Section-A

## Multiple Choice Question (MCQs)

**Q.1** Choose the correct answer for each from the given options:

- (i) The infected plant produces a variety of compounds.  
(a) Phytoalexin (b) Mycotoxin (c) Ziatin (d) Kinetin
- (ii) A kind of sexual reproduction during which two fusing gametes are morphologically as well as physiologically dissimilar.  
(a) Isogamy (b) Anisogamy (c) Oogamy (d) Heterogamy
- (iii) A type of orderly or programmed cell death is \_\_\_\_\_.  
(a) Necrosis (b) Apoptosis (c) Aneuploid (d) Heteroploid
- (iv) A phenomenon is which one gene alters the expression of another gene that is independently inherited.  
(a) Epistasis (b) Pleiotropy (c) Co-dominance (d) Linkage
- (v) Elongated tubular heavily lignified dead cells without transverse walls.  
(a) Sieve tube (b) Vessels (c) Fibers (d) Sclereids
- (vi) The principal way to cool down the plant in hot climate is \_\_\_\_\_.  
(a) Guttation (b) Transpiration  
(c) Increase of unsaturated fatty acid (d) Cuticle
- (vii) The curvature movement of plant in response to touch stimulus.  
(a) Haptonastic (b) Epinastic (c) Thigmotropism (d) Seismonastic
- (viii) The meristematic tissues present at the base of internodes and nodes.  
(a) Apical (b) Inter calary (c) Lateral meristem (d) A.O.T
- (ix) In the beginning, the chromosomes are seen as an extremely thin thread called \_\_\_\_\_.  
(a) Chromatid (b) Centromere (c) Chromonema  
(d) chromomeres

## Section - B

- Q-02:** How plants osmoregulate in fresh water?
- Q-03:** How plant movements are regulated by phytohormones?
- Q-04:** How herbivory is stress for plant and how plants cope with the stress?
- Q-05:** What is double fertilization and how it is beneficial to plants?
- Q-06:** What is co-relation of plant parts during growth, also give their types?
- Q-07:** Define any TWO of the following.  
Water Potential      Karyo type      Upwelling      Epistasis
- Q-08:** Distinguish between any one of the following.  
(a) Red light effect and Far red light effect  
(b) Monogenic and polygenic inheritance
- Q-09:** How genetic material maintained qualitatively and quantitatively in the somatic cell of an organism?
- Q-10:** Why skin colour of human being varies?
- Q-11:** Why secondary succession is more rapid than primary succession?
- Q-12:** What will be the phenotype of children when a heterozygous black colour (B) which is also heterozygous tall (T) both are located at same chromosome marry a female with homozygous white (b) skin colour and dwarf (t) character?
- Q-13:** Give names of male and female gametophyte of angiosperm, give main feature of male gametophyte?
- Q-14:** Which of the human genetic disorder of blood is controlled by incomplete alleles, what happens in it?

## Section - C

- Q-15:** Define GENE and how gene expresses in an organism?
- Q-16:** How transition of seed to flowering stage in plant occurs? Explain it briefly with the main emphasis from seed to seeding.
- Q-17:** The 300 Tall pea plants are produced by crossing Tall and dwarf plants of pea. What will be chances of dwarf plant in F<sub>2</sub> generation when these plants were self pollinated prove it with the help of genetic cross?